

### Remarks

Claims 51, 52, and 54 are cancelled without prejudice or disclaimer. Claims 1 – 17, 19 – 29, 31-39, 41 –50, 58 – 62, and 64 remain pending and reconsideration of the pending claims is requested.

Claim 1 features a method for managing a marketing campaign and includes providing a data mining engine capable of being trained with training data. After this training the data mining engine is capable of performing inferences relative to the training data and on additional data. Claim 1 also features providing a user database which defines observed characteristics of each one of a set of users. The characteristics include at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences. The data mining engine is trained with a set of training data from the user database by clustering the user database into different segments of users distinguished by different states of one or more characteristics. A predetermined characteristic pertaining to the marketing campaign is input to the database and, in response thereto, the data mining engine provides a subset of the users in the database having the highest correlation to the characteristic. This is accomplished by determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic.

The Examiner has cited the '411 patent to Thearling (US 6,240,411) in combination with the '739 patent to Wrobel (US 6,154,739) to reject claim 1. As noted in the response to the last Patent and Trademark Office Action, the model builder 14 of Thearling is described at column 8, line 12 of the '411 patent. The model builder computes a new value or other parameter based on one or more fields contained within the records of a database. Quoting from Thearling, "The program permits development of models for scoring a database based on a variety of paradigms, such as a neural-network paradigm, a statistical paradigm, or decision tree." (see column 8, line 18 – 21) Each data record is assigned a score based on the model builder and there is no mention of clustering the data during building of the model. There is no need (nor suggestion) to correlate a characteristic of a marketing campaign to a cluster model (as recited in claim 1) to derive a subset of users. Any attempt to define a subset of users by the Thearling process would

apply the model, one record at a time to the customer records and identify a subset of those records based on the records having a specified score.

The Examiner's proposed combination of references that purport to make applicant's invention obvious add a step to the Thearling process without a motivation to do so. The Thearling model building is performed instead of clustering and produces a model that can be applied to records in a database on a record by record basis. Why would one substitute the clustering process of Wrobel for the Thearling model building process? Neither Thearling nor Wrobel contain a suggestion for such a substitution. The only motivation to do so is found in applicant's invention featured in claim 1.

Applicant's would like to stress that the Thearling patent fairly suggests a model builder that acts on records one at a time to ascribe a score to those records. Applicant's invention as featured in claim 1 is a clustering process that segment users and then uses a data mining engine to take a characteristic of a marketing campaign (not a record) to identify a subset of users by correlating the marketing characteristic with the clusters provided by the data mining engine. Thus, even if the Examiner's combination is a proper combination, how would one know to cause the mining engine to operate on a marketing characteristic and not records as used by Thearling? For these reasons applicant's invention defined by claim 1 is allowable since it is not suggested by the teaching of the two cited references either alone or in combination.

For these reasons claim 1 is patentable. Claims 2 – 17, 19 and 20 depend from allowable claim 1 and are also allowable.

Claims 8 – 13 and 15 were rejected based on a combination of Thearling, Wrobel and United States patent 6,334,110 to Walter et al.

Pending claim 9 features steps of forming a focused group of the target subset of users whose observed response was a particular type of response and determining, using the data mining engine, a group of prevalent characteristics from the focused group of users. The claim additionally includes defining a database to be mined and determining, in the data mining engine, a new set of users in the database to be mined whose characteristics are statistically correlated with the group of prevalent characteristics.

Claim 9 sets up an iterative process of defining a subset of users, evaluating responses to the marketing campaign for that first subset and forming a target group (a

second subset) based on observed responses. This iterative process is neither shown nor suggested in Walter et al which merely suggests what offers and products might be good matches for like minded people of a campaign. There is no suggestion in using a result of responses to refine at a second level the marketing campaign using the features of claim 1. Again, the conclusion that the concepts of claim 9 are obvious are based on a hindsight reconstruction of those features. Claim 9 and dependent claims 10 – 13 are allowable.

Claim 21 features a method of personalizing marketing resources including providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data. A user database is provided that correlates observed characteristics of each one of a set of users with a set of adaptable marketing features. The characteristics include (a) at least one of the user's attributes, and (b) at least one of the user's preferences. A data mining engine is trained with a set of training data from the user data base by clustering the users in the database into segments of users with similar characteristics. A set of user attributes are input to the data mining engine. These attributes are one of: (a) a particular user, or (b) a particular group of users. The data mining engine produces as a result *a subset of the adaptable marketing features* having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes .

The comments mentioned above with regard to claim 1 are also applicable to claim 21. Claim 21 was rejected based on the teaching of the Thearling '411 patent in combination with the Wrobel '739 patent. As discussed previously, the Thearling '411 patent does not relate to clustering of data. There is no motivation, absent the teaching by applicant's to do so for modifying Thearling to use a clustering model rather than the model builder provided by Thearling. Furthermore the result of claim 21 is a set of relevant marketing features which are not suggested by Thearling. For these reasons claim 21 and dependent claims 22 – 29 are patentable.

Claim 31 features a method of controlling the marketing resources of a site having a real-time user interface during a visit to the site by a particular user. The method provides a data mining engine capable of being trained with training data and capable thereafter of

performing inferences relative to the training data. A user database is provided for correlating observed characteristics of each one of a set of users with a set of adaptable marketing features. The characteristics provide at least one of: (a) user attributes or (b) user preferences. The data mining engine is trained with a set of training data from the user database by clustering the users in the data base into segments of users with similar characteristics. A set of user attributes are input to the data mining engine for a particular user and, in response thereto, the data mining engine provides a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes. The subset of marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes.

Claim 31 was rejected as being obvious in view of the three patents to Thearling, Wrobel and Walter et al. These three patents neither shows nor suggests the features of claim 31 and therefore this claim is patentable.

The feature of “inputting to the data mining engine a set of user attributes of the particular user and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes” is not shown in the Thearling ‘411 patent. The Examiner cites col 3 lines 7-31 as disclosing this feature. This section refers to a database administrator segmenting a database based on assigning records within the database a score. This does not correspond to inputting a set of user attributes to a data mining engine and extracting marketable features based on a correlation between segments obtained by clustering. Claim 31 is therefore patentable.

Claims 32 – 39 and 41 – 50 depend from claim 31 and are also allowable.

Claims 58 – 60 recite machine readable medium having instructions for performing the method steps of claims 1, 21, and 31 respectively and are neither shown nor suggested by the art cited by the Examiner. For this reason they are allowable.

Claim 61 features a method for managing a marketing campaign that includes providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data. A user database is

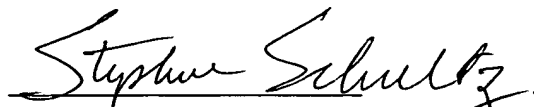
provided for correlating observed characteristics of each one of a set of users with a set of adaptable marketing features. The characteristics include (a) at least one of the user's attributes, or (b) at least one of the user's preferences. The data mining engine is trained with a set of training data that includes the user database. A predetermined characteristic is first input to the data mining engine that pertains to the marketing campaign. In response thereto, the data mining engine provides a subset of the users in the data base having the highest correlation to the characteristic. A set of user attributes is then input to the data mining engine from the subset of the users, and, in response thereto, the data mining engine provides a subset of the adaptable marketing features having the highest correlation to the set of user attributes. The method then monitoring observed responses to the marketing campaign cycle and updates the user database based upon the observed responses. Subsequent to this update the method repeats the first and second inputting steps to obtain an updated subset of users and an updated subset of marketing features.

The features of the invention recited in claim 61 are neither shown nor suggested in the Thearling patent, either alone or in combination with the Walter et al patent. Contrary to the Examiner's assertion, Thearling does not suggest inputting a set of user attributes to a data mining engine from the subset of the users, and, in response thereto, the data mining engine providing a subset of the adaptable marketing features having the highest correlation to the set of user attributes. The Examiner cites col 3, line 58 through col 4 line 35 (See office action at page 15) as teaching this feature. This section of the Thearling patent has to do with eliminating duplicate records from the results of multiple queries and does not return a subset of adaptable market features as recited in claim 61. Since the subject matter of claim 61 is neither shown nor suggested by the Examiner's combination of patents, this claim is allowable.

Claims 62 and 64 depend from allowable claim 61 and are also allowable.

All claims presently pending in this application are in condition for allowance and a prompt notification of allowance is requested.

Respectfully Submitted,

A handwritten signature in cursive script, reading "Stephen Schultz", written over a horizontal line.

Stephen J. Schultz, Reg No. 29,108

Attachment: Claims with bracketing and underlining

## Claims with bracketing and underlining.

1. **(Twice Amended)** A method for managing a marketing campaign, comprising:  
providing a data mining engine capable of being trained with training data; and  
capable thereafter of performing inferences relative to the training data and on additional  
data;

providing a user database [defining the] containing observed characteristics of each  
one of a set of users, the characteristics comprising at least one of: (a) at least one of the  
user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user [data  
base] database by clustering the user database into different segments of users  
distinguished by different states of [a characteristic] one or more characteristics;

inputting to the data mining engine a predetermined characteristic pertaining to the  
marketing campaign and, in response thereto, obtaining from the data mining engine a  
subset of the users in the data base having the highest correlation to the characteristic by  
determining which of the segments found during clustering of the user [data base] database  
has the highest statistical correlation to the predetermined characteristic.

21. **(Twice Amended)** A method of personalizing marketing resources,  
comprising:

providing a data mining engine capable of being trained with training data and  
capable thereafter of performing inferences relative to the training data;

providing a user [data base] database correlating observed characteristics of each  
one of a set of users with a set of adaptable marketing features, the characteristics  
comprising [at least one of]: (a) at least one of the user's attributes, and (b) at least one of  
the user's preferences;

training the data mining engine with a set of training data comprising the user [data  
base] database by clustering the users in the database into user segments [of users] with  
similar characteristics;

inputting to the data mining engine a set of user attributes of one of: (a) a  
particular user, (b) a particular group of users; and, in response thereto,

obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of adaptable marketing features is determined based upon the preferences of users in the user segments statistically correlated to the set of user attributes.

31. **(Twice Amended)** A method of controlling the marketing resources of a site having a real-time user interface during a visit to the site by a particular user, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data;

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) user attributes, (b) user preferences;

training the data mining engine with a set of training data comprising the user database by clustering the users in the data base into segments of users with similar characteristics ;

inputting to the data mining engine a set of user attributes of the particular user and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein

the subset of adaptable marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes..

61. **(Twice Amended)** A method for managing a marketing campaign, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data;

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user



database;

first inputting to the data mining engine a predetermined characteristic pertaining to the marketing campaign and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic;

second inputting to the data mining engine a set of user attributes of the subset of the users, and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes;

monitoring observed responses to the marketing campaign cycle and updating the user database based upon the observed responses; and

repeating the first and second inputting to obtain an updated subset of users and an updated subset of adaptable marketing features.